

Hillcrest Presentation to FCC

August 31, 2010



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Hillcrest Overview



Two Main Product Lines

**Complementary Solutions For Immersive Entertainment,
Motion Gaming, And Internet Browsing on TV**

freespace

**"In-air" Pointing and
Motion Control Solutions**



**High precision pointing
Motion control for gaming and
gestures
Lowest-cost sensor system
Ideal control for visual
navigation
Worldwide IP protection**

HōME[®]

**TV-ready Applications and
Cloud-based TV Services**



**Embedded pointing apps for TV
Cloud services for advanced TV
applications (Hillcrest Metadata
Service Platform)**

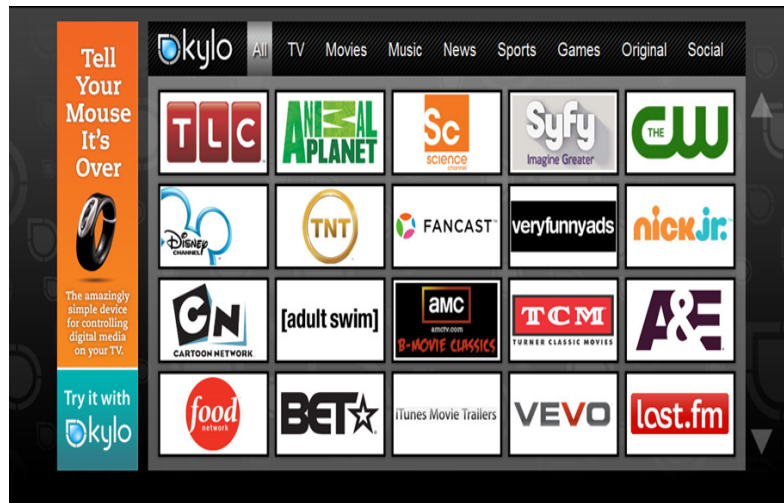
kylo[™] TV Browser



**Mozilla-based PC
browser
Optimized for TV use
Includes Internet
media guide
(embeddable version
available)**

HōME® Products

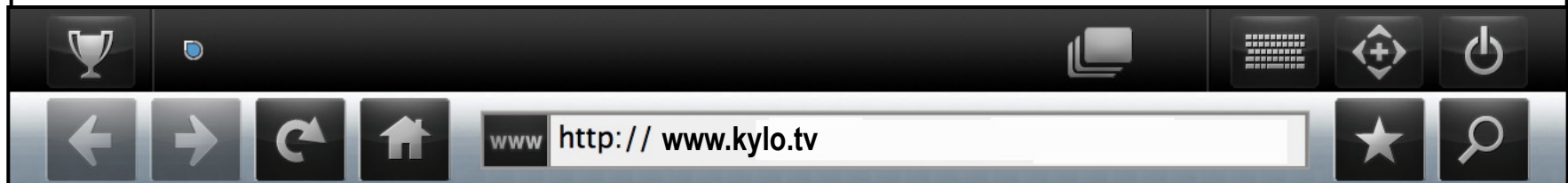
Kylo™: An Internet Browser For TV



- Kylo is a platform designed to deliver a wide range of Internet services for TV
- Transforms a PC or a MAC into a mouse-based Internet STB
- Access the entire Web, not limited to a walled-garden of content
- Offered as a free download (www.kylo.tv)
- Revenue generated through advertising, affiliates, and integrated TV applications

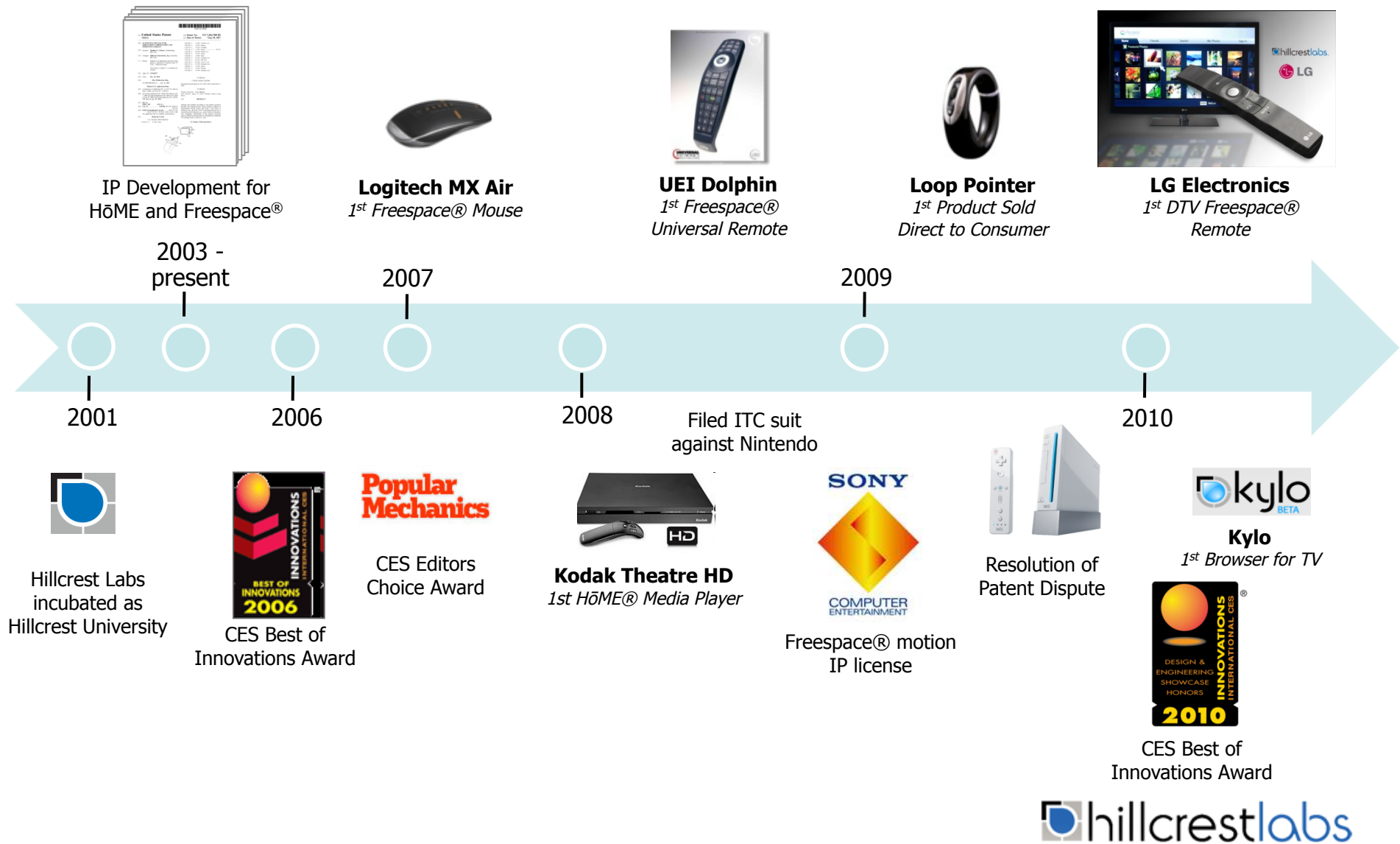
Kylo is available as a web-centric application building block

- ✓ Available for computer and home theater PC (HTPC) manufacturers on OEM basis
- ✓ Can be licensed as an embedded browser for TV and STB platforms



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Hillcrest History Timeline: Technology, Products and Customers



Kylo Discussion

Kylo Value Proposition

- Kylo is designed to give consumers access to the whole web on TV not a walled garden of limited content
 - Number one complaint by consumers about Kylo is lack of access to hulu web site
- Kylo provides UI tools that make general purpose web content accessible in the living room
 - Content owners don't need to build separate sites for living room viewing
- Kylo is the only purpose built browser for TV that CE companies can integrate into their products



Net Neutrality Debate Should Extend To Include CPE (i.e. end-user devices)

- Today, Net Neutrality debate focuses on service providers and content owners
 - However, to be comprehensive the debate should also extend to customer premise devices
- If the network itself treats all content and sites equally, but (receiving) CPE discriminate, the problem remains
- Analogies:
 - What if Intel made deals so some websites would only work on Intel CPE?
 - What if some DVD's only played in your house and not in your car?



Our Challenge:

Hulu Blocks Access by Kylo Brower

- Technically, any content provider can easily detect a particular browser
 - True, even if browser identifies as another by spoofing user-agent string
 - Hulu can easily block other web access services like Boxee, Zinc TV, Plex – there are no technical impediments
- Our concern is that Hulu discriminately blocks Kylo rather than Boxee, Zinc TV, and Plex
 - 20% of Kylo users use Kylo on PC's – certainly, this use should be acceptable
- Why might hulu discriminate against Kylo?
 - Presumably because Kylo is the first and best browser designed specifically for TV and we market it specifically for TV use
 - Content owners don't want OTT video to come to TV because it disrupts the current financial models



Why? (continued)

- hulu might believe that Kylo violates hulu's terms of service?
 - However, since Kylo is a standard browser based on Mozilla we comply with hulu's Terms of Service – We don't:
 - Remove, alter, or circumvent trademarks or notices
 - Use frames or in-line links
 - Index or use automated means of access
 - Alter the video player or restrict access to its functionality
 - Impair advertising in any way (as a matter of fact – hulu ads still play on Kylo – but the video does not)
 - Collect personally identifiable information
 - But, Boxee, for example, does violate more than one of these terms with no consequence



Why? (continued)

- Could it be hulu's desire to avoid the TV?
 - Perhaps, but Boxee, Zinc TV and Plex all target the TV as well – they are designed to run on computers connected to TV
 - hulu's Desktop application is well suited for TV – a clear contradiction
 - hulu Pro is specifically designed to augment hulu's content business model to allow payment for premium content – it should be possible to run hulu Pro on Kylo but overtures of this nature to hulu went unanswered – another contradiction
- And finally, 21% of Kylo's users don't use Kylo on TV – further reason that at least for these users Kylo shouldn't be blocked

Suggested Rule Changes Affecting Video Access

- hulu's blocking of Kylo is an example of what Net Neutrality regulations should try to prevent
- As part of the regulations to avoid disparate treatment and increase the likelihood of net neutrality it is important to ensure that discriminatory treatment among CPE's are not permitted
 - This should be true for both MVPDs and content providers/distributors
- Importantly, Hillcrest respects business rights of content owners and distributors and, therefore, does not advocate:
 - Limiting the form of content protection used
 - Limiting the business arrangements allowed
 - Limiting the coding format (e.g., codecs) used
 - ... as long as licensing is available to all on equal terms



Implications of Discrimination

- Reduced competition, which reduces consumer choice
- Less industry innovation, which is clearly the case with Kylo since it is defining a new product category
- Limits options to established players – prevents small business growth
- Finally, Kylo is designed to provide value for niche populations and, therefore, failure of Kylo reduces choice and discriminates against specific populations

Allvid Discussion

Hillcrest's Allvid Comments Focus on Navigation Principles

- Hillcrest believes AllVid's proposal to separate navigation from proprietary network design elements and conditional access will enhance innovation and is a good idea
- Summary of our views on user interface issues raised in Notice of Inquiry:
 1. Consumers are hungry for better UI's on TV
 2. Consumers are willing to pay for better UI's
 3. Industry innovation in UI's will increase usage and generate more products and services for consumers

1. Consumers Are Hungry for Better UI's (and applications) on TV

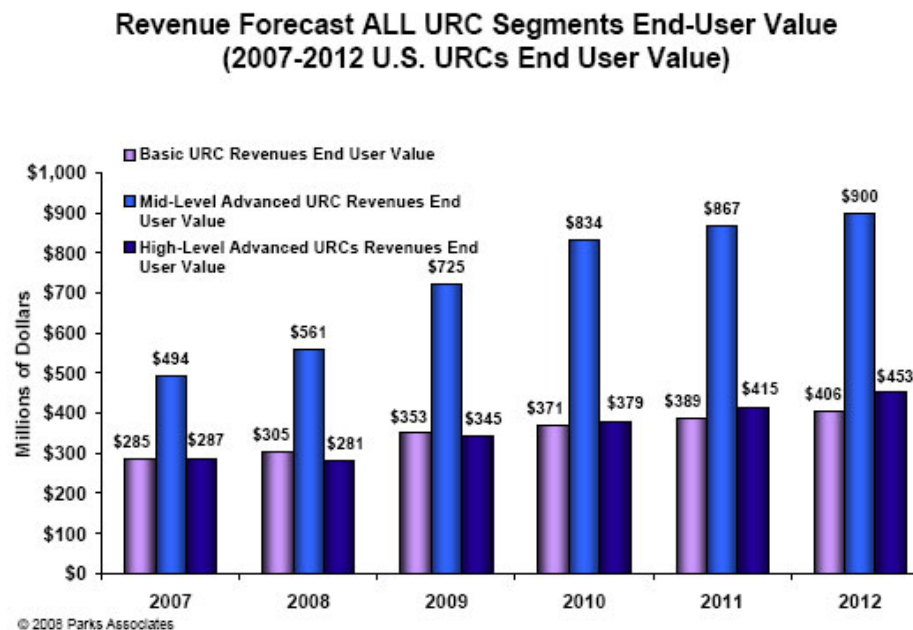
- Almost 30% of those aged 25 to 34 already use game consoles to view streaming video off the Internet – In Stat
- GigaOM Pro – following in footsteps of mobile market – more than 1 billion new TV applications expected to be downloaded by 2015

2. Consumers Are Willing to Pay For Better UI's

- iPhones cost \$200-300 more than other phones and yet have gained significant market share
- Frank Magid survey indicated 73% of users would pay up to \$50 more for an HDTV with HoME™

3. Enabling Innovation in UI's Will Result in Better Consumer Services

- Consumers want a unified experience
 - See, for example, the size of the Universal Remote market:



- 92% of US watchers prefer watching video content on TV (Nielsen, 2008)
- More than 66 million US consumers are using their computer while watching TV (In Stat)
- Navigation outside a single provider allows for unification across all content

Summary of Hillcrest Comments on AllVid NOI

- Other general recommendations
 - Avoid mandating precise presentation or navigation technology but only the AllVid API's.
 - While we think 100-BASE-TX, IP and DTCP-IP are all good choices, the most important point is that the solutions for interface, protocol, and security be standardized
 - A minimum set of codecs and transport wrappers should be specified for the AllVid API's – otherwise, some of the benefits of standardized interfaces will be lost
- As with all changes, adoptions will diffuse over time. Many will initially stay with the status quo and the early adopters will lead the way
- Allowing innovation in navigation will benefit the overall industry, and give consumers more choice and better products

Thank You



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